

WE CLAIM:

- Sub A1
1. A system for providing advertising on a data network telephony system comprising:

a data network to provide data connectivity for a plurality of data communications channels using data transport protocols;

5 a commercial message server connected to the data network, the commercial message server being operable to send at least one commercial message;

10 a first and second data network telephones connected to the data network each data network operable to communicate voice signals as data packets on a voice over data channel, the voice over data channel being one of the plurality of data communications channels on the data network containing packetized voice signals, the data network telephones being operable to convert data packets communicated on the voice over data channel to voice; and

15 the first data network telephone being operable to receive the commercial messages, the first data network telephone further comprising a message display device to display the commercial messages.

- Sub C2
2. The system of Claim 1 wherein:

at least a first and second user communicate on the voice over data channel;

5 each user identified by a user identifier that includes a unique sequence of alphanumeric elements.

3. The system of Claim 2 wherein the first data network telephone further comprises at least one speed dial key operable to initiate a second voice over data channel to a called party at a selected voice communications device when the speed dial key is assigned to the called party's user identifier.

4. The system of Claim 3 wherein the at least one speed dial key includes at least one hardware key.

5. The system of Claim 3 wherein the at least one speed dial key includes at least one display button displayed on the message display device.

6. The system of Claim 3 wherein the data network telephone further comprises a speed dial function to assign a selected user identifier to the at least one speed dial key when the commercial message includes the selected user identifier.

7. The system of Claim 3 wherein the selected voice communications device is a third data network telephone.

8. The system of Claim 3 wherein the selected voice communications device is a Public Switched Telephone Network (PSTN) phone and the user identifier includes a telephone number according to the E.164 protocol.

9. The system of Claim 2 wherein each data network telephone includes a device identifier that corresponds to the user identifier.

10. The system of Claim 9 wherein the device identifiers include Internet Protocol (IP) addresses.

11. The system of Claim 9 wherein the user identifiers include Session Initiation Protocol (SIP) addresses.

12. The system of Claim 9 wherein the user identifiers include E.164 telephone numbers.

13. The system of Claim 1 further comprising:

Sub C3
an advertisement service to retrieve at least one commercial message from the commercial message server, the network telephony connection server being operable to initiate a selected data communications channel and to send the commercial messages to the first data network telephone over the selected communications channel.

17. The system of Claim 13 wherein the request and response messages are communicated by the network telephony connection server in accordance with a protocol selected from the group consisting of: the Session Initiation Protocol (SIP), the H.323 protocol, the MGCP protocol and the MEGACO protocol.

18. The system of Claim 13 wherein:

the request message includes a callee user identifier; and

wherein the network telephony connection server determines the telephone identifier for the callee identified in the callee user identifier and includes the telephone identifier in the response message.

19. The system of Claim 13 wherein:

the request message includes a callee user identifier; and

wherein the network telephony connection server determines the telephone identifier for the callee identified in the callee user identifier and sends the response message to the callee at the telephone identifier.

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Sub A2
20. of:

A method for advertising on a telephony system, the method comprising the steps

receiving a request to initiate a telephone call between a first data network telephone to a second data network telephone over a data network, the first and second data network telephones having a display screen, the request containing a caller user identifier to identify a first user of the first data network telephone, and a callee user identifier to identify a user of the second data network telephone;

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retrieving at least one commercial message from a commercial message server; and

10 sending the at least one commercial message to the first data network telephone.

21. The method of Claim 20 further comprising the steps of:

sending the at least one commercial message to the second data network telephone.

22. The method of Claim 20 further comprising, after the step of retrieving the at least one commercial message, the step of:

5 inserting the commercial message in a response message, wherein the step of sending the at least one commercial message to the first data network telephone includes the step of:

sending the response message to the first data network telephone.

23. The method of Claim 20 wherein the step of sending the at least one commercial message to the first data network telephone includes the step of:

5 creating a data communications channel with the first data network telephone and transmitting the at least one commercial message to the first data network telephone on the data communications channel.

~~24.~~ A method for programming at least one speed dial key on a voice communications device comprising the steps of:

5 receiving a commercial message having a speed dial key program having a selected user identifier corresponding to a selected voice communications device; and

assigning the selected user identifier to the speed dial key such that the voice communications device initiates a voice over data connection to the selected

voice communications device identified by the selected user identifier when the user presses the speed dial key.

25. A method for programming at least one speed dial key on a voice communications device comprising the steps of:

receiving a commercial message having a speed dial key program having a selected user identifier corresponding to a selected voice communications device;

5 displaying a speed dial button on the display screen, the speed dial button operable to initiate a connection with a selected voice communications device when pressed; and

10 assigning the selected user identifier to the speed dial button such that the voice communications device initiates a voice over data connection to the selected voice communications device identified by the selected user identifier when the user presses the speed dial button.

Sub A3 26. A method of providing advertising services comprising the steps of:

storing at least one merchant commercial in a commercial message database;

5 communicating with a telephony service provider to receive connection information, the connection information including at least a user identifier corresponding to a user of a data network telephone;

sending at least one commercial message to the data network telephone; and

displaying the commercial message at the data network telephone.

27. The method of Claim 26 further comprising the step of storing merchant information in an ad user database connected to a commercial message server, the merchant information comprising a merchant identifier and a commercial message identifier.

28. The method of Claim 26 wherein:

the step of communicating with the telephone service provider comprises the step of receiving the connection information from the telephony service provider; and

5 the step of sending the commercial message to the data network telephone comprises the step of sending the commercial message to the telephony service provider, the telephony service provider being operable to send the commercial message to the data network telephone.

29. The method of Claim 26 wherein:

the step of communicating with the telephone service provider comprises the step of receiving the connection information from the telephony service provider; and

5 the step of sending the commercial message to the data network telephone comprises the step of establishing a data communications channel with the data network telephone and sending the commercial message to the data network telephone over the data communications channel.

Sub 7 30.
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A voice communications device comprising:

a network interface to communicate using at least one data communications channel over a data network, the data communications channel including at least one voice over data communications channel;

5 a voice over data processor to convert voice signals to voice over data signals, and to convert voice over data signals to voice signals, the voice over data signals being communicated on the voice over data communications channel;

a signaling stack to send a request to initiate a telephone call and to send a response to a received request to initiate a telephone call from another voice communications device; and

10 a message display device to display at least one commercial message received over the data network.

31. The voice communications device of Claim 30 further comprising at least one speed dial key operable to initiate a data channel to a selected voice communications device when the speed dial key is assigned to dial the selected voice communications device.

32. The voice communications device of Claim 31 wherein the at least one speed dial key includes at least one hardware key.

33. The voice communications device of Claim 31 wherein the at least one speed dial key includes at least one display button displayed on the message display device.

34. The voice communications device of Claim 31 further comprising a speed dial function to assign a selected user identifier to the at least one speed dial key when the commercial message includes the selected user identifier.

35. The voice communications device of Claim 31 wherein the selected voice communications device is a Public Switched Telephone Network (PSTN) phone and the user identifier includes a telephone number according to the E.164 protocol.

36. The voice communications device of Claim 30 further comprising:
a user identifier including a unique sequence of alphanumeric elements.

37. The voice communications device of Claim 36 further comprising a device identifier that corresponds to the user identifier.

38. The voice communications device of Claim 37 wherein the device identifiers include Internet Protocol (IP) addresses.

39. The voice communications device of Claim 36 wherein the user identifiers include Session Initiation Protocol (SIP) addresses.

40. The voice communications device of Claim 36 wherein the user identifiers include E.164 telephone numbers.

Sub AS 41. A commercial message server comprising:
at least one commercial message for display on a voice communications device;
an telephony connection server interface to receive a connection information from a telephony connection server, the connection information comprising at least one user identifier for at least one party to a telephone call; and
the commercial message server being operable to send the commercial message to the party identified by the user identifier.

42. The commercial message server of Claim 41 wherein the commercial message server is operable to send the commercial message to the user identifier by sending the commercial message to the telephony connection server.

43. The commercial message server of Claim 41 further comprising a data network interface to communicate the commercial message to the user identifier using a data communications channel.

44. The commercial message server of Claim 43 wherein the data communications channel uses the RTP protocol to transport the commercial message.

45. The commercial message server of Claim 41 further comprising a commercial message database to store the commercial message database.

46. The commercial message server of Claim 45 wherein the commercial message database includes merchant account information to maintain commercial messages and billing information for merchants.

~~47.~~ A telephony connection server comprising:

a call management function operable to receive a request to initiate a telephone call using at least one voice communications device, and to send a response message in response to the request message;

- 5 . a network telephony user database to store a user identifier for each of a plurality of users, wherein the user identifier includes a first sequence of alphanumeric elements that identify a user of a voice communications device; and
- an advertisement service to retrieve at least one commercial message from a commercial message server and to communicate the commercial messages in
- 10 the response message.

48. The telephony connection server of Claim 47 wherein the call management function uses a call management protocol selected from the group of protocols consisting of: the Session Initiation Protocol (SIP), the H.323 protocol, the MGCP protocol and the MEGACO protocol.

49. The telephony connection server of Claim 48 wherein the commercial message is communicated in a SIP response message.

50. The telephony connection server of Claim 48 wherein the telephony connection server is operable to send the request to initiate the telephone call to a callee party at a second voice communications device, and wherein:

the commercial message is communicated in the request to initiate.

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51. A telephony connection server comprising:

a call management function operable to receive a request to initiate a telephone call between at least two voice communications devices, and to send a response message in response to the request message;

